CLAIMS:

1. (original) A gas delivery system, comprising:

a gas ID, by which a gas supplied to the gas delivery system is identified;

a blender, blending oxygen and the gas to provide a gas mixture with a preselected oxygen flow rate;

an actuator, driving the blender into various blending positions according to the oxygen flow rate of the gas mixture, wherein the blending positions of the blender are corrected based on characteristics of the gas mixture; and

at least one flow sensor, to measure a flow rate of the gas mixture, wherein the flow sensor is corrected based on the characteristics of the gas mixture.

Claims 2-9 (cancelled)

10. (original) A ventilating system, comprising:

at least two gas inlets, with one inlet connected to an oxygen source and the other one connected to a gas source;

a gas ID, attached to the gas inlet connected to the gas source to identify a gas supplied therefrom;

a blender, blending the oxygen and the gas into a mixture, wherein the blender is driven by an actuator into various positions according to a selected oxygen flow rate of the mixture, and the blender positions are calibrated based on the specific heat ratio and gas constant of the gas;

an inspiratory circuit, on which an inspiratory flow sensor is installed, wherein the inspiratory flow sensor is calibrated according to temperature, pressure and humidity in the inspiratory circuit, and a gas constant of the gas;

a proximal circuit, through which a patient inhales and exhales, on which a proximal flow sensor is installed, wherein the proximal flow sensor is calibrated according to temperature,

pressure, and humidity in the proximal circuit, and a gas constant of the gas; and

an expiratory circuit, on which an expiratory flow sensor is installed, wherein the inspiratory flow sensor is calibrated according to temperature, pressure and humidity in the inspiratory circuit, and a gas constant of the gas.

11. (Original) The ventilating system according to Claim 10, wherein a flow control valve is installed at the inspiratory circuit to adjust the flow rate according to reading of the inspiratory flow sensor.

12. (Original) The ventilating system according to Claim 10, wherein the inspiratory flow sensor, the proximal flow sensor and the expiratory flow sensor are calibrated further according to viscosity when the flow rate drops under a certain magnitude.

13. (Original) The ventilating system according to Claim 10, wherein inspiratory flow sensor, the proximal flow sensor and the expiratory flow sensor are calibrated based on a reference volumetric flow calculated at a body temperature, a gas constant of air, and a barometric pressure.

14. (Original) The ventilating system according to Claim 13, wherein the reference volumetric flow is pre-stored in a calibration table.

15. (Original) The ventilating system according to Claim 14, wherein the reference volumetric flow is converted from a volumetric flow calculated at 21% of oxygen, ambient pressure and temperature.

Claims 16-18 (cancelled)